

Docket No. PNDF-01093

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re patent application of

Toshiyuki Sashihara

Serial No.: Not Yet Assigned

Group Art Unit: Not Yet Assigned

Filing Date: Concurrently Herewith

Examiner: Unknown

For: ASYNCHRONOUS INTERFERENCE AVOIDING METHOD AND
ASYNCHRONOUS INTERFERENCE AVOIDING SYSTEM

Assistant Commissioner of Patents
Washington, D.C. 20231

PRELIMINARY AMENDMENT

Sir:

Prior to examination on the merits and calculation of the filing fee, please amend the above-identified application as follows:

IN THE CLAIMS:

Please amend the claims as follows:

3. (Amended) The asynchronous interference avoiding method according to claim 1, wherein the fifth step comprises

an eighth step wherein, when the slot meeting the requirements could not have been detected in the fourth step, the third temporary master station judges whether or not the investigation of all the slots has been completed, and, when the investigation has not been completed, staggers the slot timing by half cycle, followed by return to the fourth step to again investigate the receive field strength of all the slots.

4. (Amended) The asynchronous interference avoiding method according to claim 1, wherein, in the eighth step, when the investigation of all the slots has been completed, the

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processing is ended.

5. (Amended) The asynchronous interference avoiding method according to claim 1, wherein the first step comprises

a ninth step wherein, when the first temporary master station and the second temporary master station each send the collision control downward packet in a synchronized state through the same channel, the slave station detects the unique word and, since the received packet is a packet wherein the signal of the first temporary master station has been interfered with the signal of the second temporary master station, detects an error, and, as soon as the number of times of receive of the collision control downward packet and the number of times of packet error detection have exceeded or have become equal to respective preset thresholds, judges that interference with the first temporary master station has taken place, followed by the send of a channel switching request packet to the first temporary master station and the second temporary master station, and

a tenth step wherein the first temporary master station and the second temporary master station receive the channel switching request packet and hop to channels which have been computed respectively using random numbers.

6. (Amended) The asynchronous interference avoiding method according to claim 1, wherein the first step comprises

a step wherein, when the first temporary master station and the second temporary master station send the collision control downward packet through respective separate channels, the slave station detects the unique word and, since no packet error is detected, judges that the slave station is in synchronization with the first temporary master station, and

operates according to the operation of ordinary adhoc protocol.

7. (Amended) The asynchronous interference avoiding method according to claim 1, wherein, in the third step, when the number of times of receive of the collision control downward packet is equal to or less than a preset threshold, or when the number of times of unique word undetection is equal to or less than a preset threshold, the step is returned to the first step.

8. (Amended) The asynchronous interference avoiding method according to claim 1, wherein, in the ninth step, when the number of times of receive of the collision control downward packet is equal to or less than a preset threshold, or when the number of times of packet error detection is equal to or less than a preset threshold, the step is returned to the first step.

9. (Amended) The asynchronous interference avoiding method according to claim 1, wherein

the third step comprises a tenth step wherein, when the slave station temporarily functions as a third temporary master station, in all utilizable slots, the interference detection packet is continuously sent by the number of times which exceeds or is equal to a preset threshold, and

when the tenth step is executed, the processing in the fourth step and the processing in the fifth step are not carried out.

10. (Amended) The asynchronous interference avoiding method according to claim 1, wherein

the fourth step comprises an eleventh step which comprises: upon the detection of the slot meeting the requirements, making an examination on whether or not the unique word is detected; when the unique word has not been detected, staggering the position of the slot by "1" bit before; making an examination on whether or not the unique word is detected; repeating said procedure in a range such that an electric field can be detected; and, when the unique word has been detected, sending a channel switching request packet through a send slot corresponding to said slot to allow the first temporary master station or the second temporary master station to perform channel hopping, and

when the eleventh step is executed, the processing in the fifth step is not carried out.

11. (Amended) A storage medium comprising, recorded thereon, a program which can execute the asynchronous interference avoiding method according to claim 1.

Please add claims 14 - 20 as follows:

- - 14. (New) The asynchronous interference avoiding method according to claim 2, wherein the fifth step comprises

an eighth step wherein, when the slot meeting the requirements could not have been detected in the fourth step, the third temporary master station judges whether or not the investigation of all the slots has been completed, and, when the investigation has not been completed, staggers the slot timing by half cycle, followed by return to the fourth step to again investigate the receive field strength of all the slots.

15. (New) The asynchronous interference avoiding method according to claim 3, wherein, in the eighth step, when the investigation of all the slots has been completed, the processing is ended.

16. (New) The asynchronous interference avoiding method according to claim 2, wherein the first step comprises

a ninth step wherein, when the first temporary master station and the second temporary master station each send the collision control downward packet in a synchronized state through the same channel, the slave station detects the unique word and, since the received packet is a packet wherein the signal of the first temporary master station has been interfered with the signal of the second temporary master station, detects an error, and, as soon as the number of times of receive of the collision control downward packet and the number of times of packet error detection have exceeded or have become equal to respective preset thresholds, judges that interference with the first temporary master station has taken place, followed by the send of a channel switching request packet to the first temporary master station and the second temporary master station, and

a tenth step wherein the first temporary master station and the second temporary master station receive the channel switching request packet and hop to channels which have been computed respectively using random numbers.

17. (New) The asynchronous interference avoiding method according to claim 3, wherein the first step comprises

a ninth step wherein, when the first temporary master station and the second temporary master station each send the collision control downward packet in a synchronized

state through the same channel, the slave station detects the unique word and, since the received packet is a packet wherein the signal of the first temporary master station has been interfered with the signal of the second temporary master station, detects an error, and, as soon as the number of times of receive of the collision control downward packet and the number of times of packet error detection have exceeded or have become equal to respective preset thresholds, judges that interference with the first temporary master station has taken place, followed by the send of a channel switching request packet to the first temporary master station and the second temporary master station, and

a tenth step wherein the first temporary master station and the second temporary master station receive the channel switching request packet and hop to channels which have been computed respectively using random numbers.

18. (New) The asynchronous interference avoiding method according to claim 4, wherein the first step comprises

a ninth step wherein, when the first temporary master station and the second temporary master station each send the collision control downward packet in a synchronized state through the same channel, the slave station detects the unique word and, since the received packet is a packet wherein the signal of the first temporary master station has been interfered with the signal of the second temporary master station, detects an error, and, as soon as the number of times of receive of the collision control downward packet and the number of times of packet error detection have exceeded or have become equal to respective preset thresholds, judges that interference with the first temporary master station has taken place, followed by the send of a channel switching request packet to the first temporary master station and the second temporary master station, and

a tenth step wherein the first temporary master station and the second temporary master station receive the channel switching request packet and hop to channels which have been computed respectively using random numbers.

19. (New) The asynchronous interference avoiding method according to claim 2, wherein the first step comprises

a step wherein, when the first temporary master station and the second temporary master station send the collision control downward packet through respective separate channels, the slave station detects the unique word and, since no packet error is detected, judges that the slave station is in synchronization with the first temporary master station, and operates according to the operation of ordinary adhoc protocol.

20. (New) The asynchronous interference avoiding method according to claim 3, wherein the first step comprises

a step wherein, when the first temporary master station and the second temporary master station send the collision control downward packet through respective separate channels, the slave station detects the unique word and, since no packet error is detected, judges that the slave station is in synchronization with the first temporary master station, and operates according to the operation of ordinary adhoc protocol.- -

REMARKS

Claims 3-11 have been amended to delete multiple-dependency and claims 14-20 have been added accordingly.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached pages are captioned **"Version with markings to show changes made."**

Early, favorable prosecution on the merits is respectfully requested.

Please charge any deficiencies in fees and credit any overpayment of fees to Attorney's Deposit Account No. 50-0481.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

3. (Amended) The asynchronous interference avoiding method according to claim 1 [or 2], wherein the fifth step comprises

an eighth step wherein, when the slot meeting the requirements could not have been detected in the fourth step, the third temporary master station judges whether or not the investigation of all the slots has been completed, and, when the investigation has not been completed, staggers the slot timing by half cycle, followed by return to the fourth step to again investigate the receive field strength of all the slots.

4. (Amended) The asynchronous interference avoiding method according to [any one of claims 1 to 3] claim 1, wherein, in the eighth step, when the investigation of all the slots has been completed, the processing is ended.

5. (Amended) The asynchronous interference avoiding method according to [any one of claims 1 to 4] claim 1, wherein the first step comprises

a ninth step wherein, when the first temporary master station and the second temporary master station each send the collision control downward packet in a synchronized state through the same channel, the slave station detects the unique word and, since the received packet is a packet wherein the signal of the first temporary master station has been interfered with the signal of the second temporary master station, detects an error, and, as soon as the number of times of receive of the collision control downward packet and the number of times of packet error detection have exceeded or have become equal to respective preset thresholds, judges that interference with the first temporary master station has taken

place, followed by the send of a channel switching request packet to the first temporary master station and the second temporary master station, and

a tenth step wherein the first temporary master station and the second temporary master station receive the channel switching request packet and hop to channels which have been computed respectively using random numbers.

6. (Amended) The asynchronous interference avoiding method according to [any one of claims 1 to 5] claim 1, wherein the first step comprises

a step wherein, when the first temporary master station and the second temporary master station send the collision control downward packet through respective separate channels, the slave station detects the unique word and, since no packet error is detected, judges that the slave station is in synchronization with the first temporary master station, and operates according to the operation of ordinary adhoc protocol.

7. (Amended) The asynchronous interference avoiding method according to [any one of claims 1 to 6] claim 1, wherein, in the third step, when the number of times of receive of the collision control downward packet is equal to or less than a preset threshold, or when the number of times of unique word undetection is equal to or less than a preset threshold, the step is returned to the first step.

8. (Amended) The asynchronous interference avoiding method according to [any one of claims 1 to 7] claim 1, wherein, in the ninth step, when the number of times of receive of the collision control downward packet is equal to or less than a preset threshold, or when the number of times of packet error detection is equal to or less than a preset threshold, the step is

returned to the first step.

9. (Amended) The asynchronous interference avoiding method according to [any one of claims 1 to 8] claim 1, wherein

the third step comprises a tenth step wherein, when the slave station temporarily functions as a third temporary master station, in all utilizable slots, the interference detection packet is continuously sent by the number of times which exceeds or is equal to a preset threshold, and

when the tenth step is executed, the processing in the fourth step and the processing in the fifth step are not carried out.

10. (Amended) The asynchronous interference avoiding method according to [any one of claims 1 to 9] claim 1, wherein

the fourth step comprises an eleventh step which comprises: upon the detection of the slot meeting the requirements, making an examination on whether or not the unique word is detected; when the unique word has not been detected, staggering the position of the slot by "1" bit before; making an examination on whether or not the unique word is detected; repeating said procedure in a range such that an electric field can be detected; and, when the unique word has been detected, sending a channel switching request packet through a send slot corresponding to said slot to allow the first temporary master station or the second temporary master station to perform channel hopping, and

when the eleventh step is executed, the processing in the fifth step is not carried out.

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11. (Amended) A storage medium comprising, recorded thereon, a program which can execute the asynchronous interference avoiding method according to [any one of claims 1 to 10] claim 1.

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